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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
(Alexandria Division)

2012 FEB 21 P 2:29

CLERK US DISTRICT COURT
ALEXANDRIA, VIRGINIA

CARVER INTERNATIONAL, INC., a
California Corporation,

Plaintiff,

v.

DAVID J. KAPPOS, Under Secretary
of Commerce For Intellectual Property and
Director of the United States
Patent and Trademark Office, and

UNITED STATES PATENT AND
TRADEMARK OFFICE,

Defendants.

Civil Action No.

1:12CV175
AJT/IDD

COMPLAINT

Plaintiff, Carver International, Inc. ("Plaintiff" or "Carver Skateboards") for its Complaint against Defendants, David J. Kappos ("Kappos") in his official capacity, and the United States Patent and Trademark Office ("USPTO" or, collectively, "Defendants"), states and alleges as follows:

STATEMENT OF THE CASE

1. Plaintiff files this legal proceeding with the sole, singular goal of having its issued patent, which is U.S. Patent No. 6,793,224 ("the '224 patent") reinstated. (Attached hereto as Exhibit "A" is a true and correct copy of the '224 patent.)

2. On November 20, 2008, the '224 patent expired due to USPTO's refusal to accept late payment of a \$490 administrative Maintenance Fee charged by the USPTO. Previously, Carver Skateboards took note of the Maintenance Fee due date and exercised reasonable care in the docketing of the due date for payment. However, through unusual and unexpected

occurrences outside of its control and despite its exercise of reasonable care, the administrative Maintenance Fee was not paid. Timely payment of the administrative Maintenance Fee was unavoidable, due to a conflux of isolated factors, involving:

- a) the actions of its agent, the TOPE-MCKAY & ASSOCIATES firm (the "TMA firm"), which, despite its dual docketing system, which includes use of both an Excel spreadsheet and Case Tracking Software (as produced by FlexTrac, Inc.), failed to notify Carver Skateboards that the Maintenance Fee was due to be paid, such that it was not paid on or prior to its September 22, 2008, due date and was not even attempted to be paid until on or about November 1, 2010, after the TMA firm discovered that its dual docketing system had failed and the Maintenance Fee had not been paid;
- b) the actions of Eyerick Williamson, who was the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO") of Carver Skateboards during the relevant time period, and who was assigned with the responsibility to monitor the '224 patent, and who repeatedly informed Carver Skateboards that any and all USPTO administrative matters were handled, without making any inquiry, and who deliberately turned a blind eye to all of the administrative matters of Carver Skateboards, because he was being removed from Carver Skateboards during the relevant time period and, upon information and belief, desired the company to fail;
- c) the actions of the USPTO, which did not send its March 31, 2008, Maintenance Fee Reminder concerning the '224 patent or its October 20, 2008, Notice of Patent Expiration of the '224 patent to Carver Skateboards, Neil Stratton (who is the sole inventor of the '224

patent) or to the TMA firm, and instead sent it to the CHRISTIE, PARKER & HALE law firm (the "CPH firm"), despite the fact that:

- 1) the CPH firm had previously filed an Application to Withdraw as Attorneys of Record in Pending Application ("Petition to Withdraw") from its representation of Carver Skateboards on September 15, 2002;
- 2) the USPTO had corresponded with the TMA firm concerning the application for the '224 patent at least as early as December 26, 2002, which is *after* the CPH firm filed its Petition to Withdraw; and,
- 3) the USPTO also had corresponded with "Eyerick Williamson, President, Carver Skateboards, Inc." concerning the application for the '224 patent at least as early as February 20, 2003, which also is *after* the CPH firm filed its Petition to Withdraw, and continued to correspond with Carver Skateboards, copying the TMA firm *only*,

such that neither Carver Skateboards, Stratton nor the TMA firm received either the Maintenance Fee Reminder or the Notice of Patent Expiration sent by the USPTO concerning the '224 patent;

- d) the actions of the CPH firm which, upon information and belief, despite receiving the only copies of the Maintenance Fee Reminder and Notice of Patent Expiration that were sent from the USPTO to *anyone* concerning this matter, did not provide either document to Carver Skateboards, Stratton, or to the TMA firm; and,
- e) the further actions of the USPTO, which accepted a June 21, 2010, Notice of Recordation of the '224 patent, which assigned the '224 patent from Carver Skateboards, Inc. to Carver International, Inc., and recorded the

assignment of the '224 patent on June 22, 2010, without informing Carver Skateboards, Stratton or the TMA firm that it *could not accept* the submitted assignment for recordation because the '224 patent had expired, despite its continuous written and telephonic contact with Stratton who, during this recordation process, was the Chief Executive Officer ("CEO") of Carver Skateboards. Had the USPTO done so, Carver Skateboards could have filed a Petition for Reinstatement or before

September 22, 2010.

3. Had any of the TMA firm, Williamson or the CPH firm acted within the course and scope of their duties, or had the USPTO provided notification to any party other than the CPH firm, or had the USPTO even informed Stratton in June 2010 that the '224 patent had expired, Carver Skateboards undoubtedly would have paid the administrative Maintenance Fee.

4. Therefore, due to the above actions that Carver Skateboards could not avoid, the administrative Maintenance Fee was not timely paid and, on October 20, 2008, the issued '224 patent expired — not by choice, and not because Carver Skateboards desired it to expire, but rather because, under these circumstances, timely payment was unavoidable. Upon learning that its issued '224 patent had expired, Carver Skateboards immediately sought to pay the administrative fee, which was not accepted. Inequity has resulted. Carver Skateboards has exhausted all administrative appeals within the USPTO and now files the present action.

NATURE OF ACTION

5. This is an action seeking judicial review, under the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 704 *et seq.*, of a decision of the Director of the USPTO and the USPTO, dated December 20, 2011, denying the Petition to accept the tendered late payment of Maintenance Fee(s) and reinstate the '224 patent, despite Plaintiff's showing that the delay in payment of the patent Maintenance Fee was unavoidable under 35 U.S.C. § 41(c)(1).

PARTIES

6. Plaintiff Carver International is a California corporation and is engaged in the design, manufacture and sale of skateboards and accessories, having a principal place of business at 11 Sierra St., El Segundo, California 90245.

7. Defendant Kappos is the Under Secretary of Commerce for Intellectual Property at, and the Director of, the USPTO. Kappos is being named herein in his official capacity.

8. Defendant USPTO is a federal agency in the Department of Commerce. The USPTO is located at Madison Building East, 600 Dulany Street, Alexandria, Virginia 22314.

JURISDICTION AND VENUE

9. This Court has jurisdiction over the subject matter of this action by virtue of the APA (5 U.S.C. §§ 701 *et seq.*), federal question jurisdiction (28 U.S.C. §§ 1331 and 1361), the Federal Declaratory Judgment Act (28 U.S.C. §§ 2201 and 2202), the United States Patent Laws (28 U.S.C. § 1338(a)), the America Invents Act Sec. 9(a), and this Court's equitable powers.

10. The USPTO is located in Alexandria, Virginia. Venue is proper in this Judicial District and Division pursuant to 5 U.S.C. §§ 702-706, 35 U.S.C. § 1(b), 28 U.S.C. § 1391(e), and Local Rule 3(c).

11. Plaintiff has standing to maintain this action pursuant to the APA, as it is the party who has suffered a legal wrong and has been adversely affected by final agency action, as complained of herein.

12. There exists an actual, justiciable case or controversy between Plaintiff and the USPTO, as to which Plaintiff seeks: (i) a declaration of rights by this Court; and, (ii) injunctive relief against the USPTO, including:

- a) prohibiting the USPTO from: (i) continuing to refuse acceptance of a delayed Maintenance Fee payment on the '224 patent; and,
(ii) continuing to deny reinstatement of the '224 patent, all to Plaintiff's irreparable injury, as complained of herein; and,

- b) compelling and/or ordering the USPTO to reinstate the '224 patent after acceptance of Plaintiff's payment of the requisite Maintenance Fees.

13. Sovereign immunity preventing suits against the officers or employees of the United States is waived in this action pursuant to the provisions of the APA, 5 U.S.C. § 702.

STATEMENT OF FACTS

Carver International

14. Carver Skateboards is a well-known skateboard industry leader, pioneering "surf-skating." The foundation of Carver Skateboards is based upon the '224 patent, and it has grown into an international manufacturer of its unique skateboards from its El Segundo, California location. It employs more than 15 full-time workers and grosses more than \$1 million dollars per year.

15. Stratton, a Venice Beach, California-based surfer, spent several years developing a skateboarding wheel axel that allows the front-end wheels to turn and pivot so that its riders feel as if they are skateboarding on a surfboard. (See photographic graphic depiction at right.) Stratton created hundreds of drawings and dozens of prototypes to achieve this "feel". When he had perfected his prototype, he filed his patent application and subsequently assigned his entire right, title and interest in the invention to Carver Skateboards.



16. The technology embodied in the '224 patent provides an improved skateboard truck (or axel). The improved skateboard truck comprises an axle having a pair of wheels mounted on opposite ends. There is a skateboard truck on the front of the skateboard that allows the front wheels to laterally sway from side-to-side. There also is a skateboard truck on the back of the skateboard which also allows the back wheels to turn, but not as sharply as the front wheels. Two wheels are attached to each skateboard truck, one wheel per side. Each skateboard truck provides a combination of: (1) adjustable lateral stability, and (2) enhanced skateboard turning abilities.

17. Since the early 2000s, Carver Skateboards has worked with several renowned surfers and skateboarders, including: legendary surfer Laird Hamilton ("Hamilton"), pictured at right surf-skating on a Carver Skateboard; Carlsbad, California-based competitive surfer Taylor Knox; Japanese pro-surfer-turned-distributor Aki Takahama; and, Renowned Japanese pro-surfer Mineto Ushikoshi ("Ushikoshi").



18. Hamilton immediately connected with the way the Carver Skateboards "surfed". Carver Skateboards are his perfect surf trainer to stay in shape for riding the 50-foot plus waves of (Jaws) Peahi, Hawaii. An innovator himself, from tow-in technology to his revolutionary Foil Board, Hamilton recognized this breakthrough in skating and saw how it dovetailed with his own cutting edge pursuits. Since then, Carver has proudly offered numerous Hamilton signature models and continues to work with this legendary waterman to develop his quiver of land-surfing boards.

19. Japanese pro surfer-turned-distributor Aki Takahama and pro-surfer Ushikoshi also felt the deep relationship to surfing the Carver Skateboards provided them. Ushikoshi even joined the Carver Skateboards team. Ushikoshi helped design his own line of decks and graphics in conjunction with his signature Carver Skateboards brand, further adding to the development of the United States-Japanese surf-skate style.

20. Now, Carver Skateboards sells thousands of skateboards within the United States and across the Pacific Rim and riders have developed and continue to develop their own distinctive style of surf-skating.

21. The technology embodied in the '224 patent is Carver Skateboards. Numerous companies have copied Stratton's invention. Carver Skateboards desires to protect and must protect its primary corporate asset and stop others from copying its design, so as to: (1) ensure

the safety of surfskaters everywhere, such that they are riding the proper skateboards and not riding knock-off skateboard products, which may endanger the riders, and, (2) to further protect its corporate assets and employees, such that its business continues to grow and remains profitable.

The '224 Patent

22. On or about March 8, 2001, Application No. 09/801,536 ("the '536 application") was filed with the USPTO, naming Stratton as the sole inventor.

23. On or about March 8, 2001, Stratton assigned his rights to the invention claimed in the '536 application to Carver Skateboards, Inc. Stratton was a shareholder of Carver Skateboards at that time.

24. The '536 application was filed by the CPH firm, which is located at 655 North Central Avenue, Suite 2300, Glendale, California 91203-1445.

25. Williamson was the CEO and CFO of Carver Skateboards at the time the '536 application was filed.

26. On behalf of Carver Skateboards, the assignee, and as agreed by both Stratton and Williamson, Williamson, in his capacity as the CEO and CFO of Carver Skateboards, was responsible for paying the fees associated with the '536 application and any patent that issued therefrom. Stratton looked to, and justifiably relied upon, Carver Skateboards (through its CEO and CFO, Williamson) for payment of the USPTO administrative Maintenance Fee.

27. On or about September 15, 2002, the CPH firm filed a petition to withdraw as counsel, redirecting all future correspondence to Carver Skateboards, and the USPTO began sending its notices to Carver Skateboards.

28. On or about November 28, 2002, the TMA firm began assisting Carver Skateboards with the prosecution of the '536 application. The TMA firm is located at 30765 Pacific Coast Highway, Suite 420, Malibu, California 90265.

29. On September 21, 2004, the USPTO issued the '224 patent, entitled "Truck for Skateboards," to Carver Skateboards, Inc., the assignee as identified on the issued patent.

30. The first administrative maintenance fee for the '224 patent was to be paid from September 21, 2007 to September 22, 2008.

31. The TMA firm uses a redundant procedure for docketing. The redundant procedure includes use of both an Excel spreadsheet and Case Tracking Software (as produced by FlexTrac, Inc.), collectively referred to as the Docketing System. The issuance of the '224 patent was entered into the Docketing System and managed by counsel employed by the TMA firm. However, the client information was improperly entered into the Docketing System. On February 29, 2008, the TMA firm sent a maintenance fee reminder to an improper address for Carver Skateboards/Stratton. Because the Docketing System had the wrong address, Carver Skateboards/Stratton never received the maintenance fee reminder. The TMA firm did not initiate any further contact with Carver Skateboards/Stratton to ensure that Carver Skateboards/Stratton received the maintenance fee reminder and paid the \$490 administrative Maintenance Fee to the USPTO.

32. On or about March 31, 2008, the USPTO mailed a "Maintenance Fee Reminder" to the CPH firm, and not to Carver Skateboards or to the TMA firm, even though: a) the CPH firm filed a petition to withdraw as counsel for Carver Skateboards on September 15, 2002, redirecting all future correspondence to Carver Skateboards; b) the TMA firm had appeared at the USPTO at least as early as December 26, 2002, on behalf of Carver Skateboards, and the TMA firm continued to represent Carver Skateboards in front of the USPTO; and, c) the USPTO corresponded with "Eyerick Williamson, President, Carver Skateboards, Inc." at least as early as February 20, 2003, while copying the TMA firm on its correspondence.

33. On information and belief, the CPH firm did not send the "Maintenance Fee Reminder" to Carver Skateboards, Stratton, or to the TMA firm.

34. Shortly prior to June 1, 2008, during the time in which the administrative Maintenance Fee could have been timely paid, Carver Skateboards decided to remove Williamson from its business management and operations. Stratton therefore began the process

to dissolve Carver Skateboards and began to negotiate the division of the company's assets with Williamson.

35. During the dissolution negotiations, Williamson, who was assigned with the responsibility to monitor the '224 patent, and who repeatedly informed Carver Skateboards that any and all USPTO administrative matters were handled, without making any inquiry, deliberately turned a blind eye to all of the administrative matters for Carver Skateboards, because he was being removed from Carver Skateboards during the relevant time period and, upon information and belief, desired the company to fail.

36. On or about October 20, 2008, the USPTO mailed a "Notice of Patent Expiration" to the CPH firm, even though: a) the CPH firm filed a petition to withdraw as counsel for Carver Skateboards on September 15, 2002, redirecting all future correspondence to Williamson; b) the TMA firm had appeared at the USPTO at least as early as December 26, 2002, on behalf of Carver Skateboards, and the TMA firm continued to represent Carver Skateboards in front of the USPTO; and, c) the USPTO corresponded with "Eyerick Williamson, President, Carver Skateboards, Inc." at least as early as February 20, 2003, while copying the TMA firm on its correspondence.

37. Upon information and belief, the CPH firm, despite having received the only copy of the Notice of Patent Expiration sent from the USPTO, as well as the earlier Maintenance Fee Reminder sent by the USPTO concerning this matter, *still* did not perceive a problem, and *still* did not provide the Notice of Patent Expiration to Carver Skateboards, Stratton, or to the TMA firm.

38. Importantly, had the TMA firm received the March 31, 2008 Maintenance Fee Reminder sent by the USPTO concerning this matter or the October 20, 2008 Notice of Patent Expiration, it would have realized that its Docketing System had failed and would have informed Carver Skateboards that the administrative Maintenance Fee for the '224 patent had not been timely paid. However, it did not receive either document, and thus had no reason to believe that its Docketing System had failed.

39. On or about June 21, 2010, believing that the '224 patent was properly maintained and had not expired, Carver Skateboards filed an assignment with the USPTO, with "Carver Skateboards, Inc." as the assignor and "Carver International, Inc." as the assignee. Prior to this filing, Stratton had repeated, numerous written and telephonic contact with the USPTO concerning the filing of the assignment. At no time during this process did the USPTO inform Carver Skateboards, Stratton or the TMA firm that it could not accept the submitted assignment for recordation because the '224 patent had expired. Instead, on June 22, 2010, the USPTO recorded the assignment. Had the USPTO informed Carver Skateboards/Stratton that the '224 patent had expired, Carver Skateboards could have filed a Petition for Reinstatement or before September 22, 2010, as provided for by 37 C.F.R. § 1.378(c).

Petitions to Reinstate the '224 Patent

40. On November 1, 2010, Carver Skateboards filed its Petition to Revive the '224 patent with the USPTO ("First Petition").

41. On or about May 25, 2011, the USPTO dismissed the First Petition.

42. On or about July 25, 2011, Carver Skateboards filed a Renewed Petition with the USPTO ("Renewed Petition").

43. On or about December 20, 2011, the USPTO dismissed the Renewed Petition, noting that "this decision is a final agency action within the meaning of 5 U.S.C. § 704 for purposes of seeking judicial review. . . . [N]o further consideration will be given to this matter."

COUNT I

(Violation of the Administrative Procedures Act, 5 U.S.C. § 701 *et seq.*)

44. Plaintiff repeats and realleges the foregoing paragraphs as though fully set forth herein.

45. Throughout the petition process, the USPTO acted in a manner that was arbitrary, capricious, and/or otherwise contrary to law and in excess of statutory authority, all in violation of 5 U.S.C. § 706(2), including, among other conduct adversely affecting Plaintiff, the following:

- a) Ignoring that since at least as early as March 8, 2001, Carver Skateboards, and not Stratton, was the assignee of the '224 patent and was responsible for payment of fees associated with it;
- b) Ignoring that the TMA firm's Docketing System had failed and Carver Skateboards was not notified that an administrative Maintenance Fee was due to be paid;
- c) Ignoring that Plaintiff looked to Williamson, its then- CEO and CFO, to pay the fees associated with the '224 patent, including the maintenance fees (Cal. Corp. Code §§ 204 and 309);
- d) Ignoring that Carver Skateboards had a right to rely on Williamson's representations and assurances, and justifiably did so;
- e) Ignoring that Williamson deliberately jeopardized the '224 patent through his inattention to its continued maintenance, because he was being forced out of Carver Skateboards and, upon information and belief, desired the company to fail;
- f) Ignoring that the USPTO did not send either the Maintenance Fee Reminder or Notice of Patent Expiration to Carver Skateboards, Williamson, Stratton or the TMA firm, and instead sent it to the CPH firm, despite that: (1) the CPH firm had previously filed a petition to withdraw from its representation of Carver Skateboards; (2) the USPTO had corresponded with the TMA firm after the CPH firm filed its petition to withdraw; and, (3) the USPTO also had corresponded with Carver Skateboards, copying the TMA firm, also after the CPH firm filed its petition to withdraw, such that neither Carver Skateboards, Stratton or the TMA firm received either the Maintenance Fee Reminder or Notice of Patent Expiration;

- g) Ignoring that, on June 22, 2010, the USPTO issued a Notice of Recordation for the '224 patent, when it could not do so, because the patent had expired;
- h) Ignoring that, on and prior to June 21, 2010, Stratton had repeated, numerous written and telephonic contact with the USPTO concerning the filing of the assignment. At no time during this process did the USPTO inform Carver Skateboards, Stratton or the TMA firm that it could not accept the submitted assignment for recordation because the '224 patent had expired;
- i) Ignoring that, had the USPTO informed Carver Skateboards/Stratton that the '224 patent had expired during this June 2010 timeframe, Carver Skateboards could have filed a Petition for Reinstatement or before September 22, 2010, which it had a statutory right to do;
- j) Ignoring that given the aforementioned facts, Carver Skateboards exercised the requisite diligence that is generally used and observed by prudent and careful men in relation to their most important business;
- k) Applying a shifting standard of proof throughout the Petitions and responses in support, setting a moving target and finding new grounds on which to deny or ignore Plaintiff's responses and requests; and,
- l) Concluding, in effect, that unavoidable delay can never occur even though affirmative misrepresentations and assurances were made by a duly-appointed representative of the entity responsible for making the maintenance payments, and even if there was justifiable reliance on such representations and assurances during the time period when the maintenance fees were due.

46. The USPTO's denial of the First and Renewed Petitions (the "Petitions") has damaged Plaintiff irreparably. Such damage will continue unless and until the USPTO rulings are set aside and the USPTO is ordered to reinstate the '224 patent by this Court.

47. Plaintiff has exhausted its administrative remedies, or in the alternative, pursuit of any further administrative remedies is futile.

48. Plaintiff has no other adequate remedy at law.

49. The USPTO's denials of the Petitions are ripe for review because the issues tendered are appropriate for legal resolution and Plaintiff will suffer hardship if relief is denied.

50. Plaintiff is entitled to a reinstatement of the '224 patent upon tender of the late maintenance fee(s), together with all other amounts that may be due pursuant to 35 U.S.C. § 41(c)(1).

COUNT II

(Declaratory Judgment Reinstating the '224 Patent)

51. Plaintiff repeats and realleges the foregoing paragraphs as though set forth fully herein.

52. The USPTO's denials of the Petitions are contrary to the law.

53. The USPTO's denial of the Petitions has damaged the Plaintiff irreparably. Such damage will continue unless and until the USPTO's rulings are set aside and the USPTO is ordered to reinstate the '224 patent by this Court.

54. Plaintiff has exhausted its administrative remedies, or in the alternative, pursuit of any further administrative remedies is futile.

55. Plaintiff has no other adequate remedy at law.

56. The USPTO's denials of the Petitions are ripe for review because the issues tendered are appropriate for legal resolution and Plaintiff will suffer hardship if relief is denied.

57. There exists an actual, justiciable case or controversy between Plaintiff and the PTO, as to which Plaintiff seeks: (i) a declaration of rights by this Court; and (ii) injunctive relief against the USPTO, including,

- a) prohibiting the USPTO from: (i) continuing to refuse acceptance of a delayed maintenance fee payment on the '224 patent; and, (ii) continuing to deny reinstatement of the '224 patent, all to Plaintiff's irreparable injury, as complained of herein; and,
- b) compelling and/or ordering the USPTO to reinstate the '224 patent after acceptance of Plaintiff's payment of the requisite maintenance fees.

58. Plaintiff is entitled to a declaratory judgment that: (i) the delay in the payment of the maintenance fee was unavoidable under 35 U.S.C. § 41(c)(1); and, (ii) the USPTO's denials of the First and Renewed Petitions are arbitrary, capricious, and/or otherwise contrary to law and in excess of statutory authority, in violation of 5 U.S.C. § 706(2).

COUNT III

(Writ of Mandamus)

59. Plaintiff repeats and realleges the foregoing paragraphs as though set forth fully herein.

60. Plaintiff has a clear and indisputable right to provide payment for any and all administrative Maintenance Fees owing and due to the USPTO concerning the '224 patent.

61. Defendants have a clear duty to apply and follow their own rules in reviewing the First and Renewed Petitions, and to allow the Plaintiff to provide any and all administrative Maintenance Fee payments to the USPTO concerning the '224 patent and have failed to do so.

62. The act requested is an official act or duty of the USPTO.

63. Plaintiff will have no adequate alternative relief to attain the relief it desires if the relief it has sought under Counts I and II is not granted.

64. The issuance of the writ will effect right and justice in the circumstances.

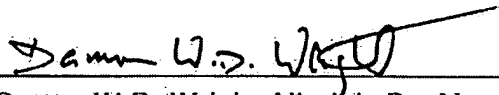
RELIEF REQUESTED

WHEREFORE, Plaintiff respectfully prays that this Court:

- A. Issue a declaratory judgment that the delay in the payment of the maintenance fee was unavoidable under 35 U.S.C. § 41(c)(1);
- B. Issue a declaratory judgment that the USPTO's denials of the First and Renewed Petitions are arbitrary, capricious, and/or otherwise contrary to law and in excess of statutory authority, in violation of 5 U.S.C. § 706(2);
- C. Enter an order requiring the PTO to promptly: (i) expressly withdraw its denials of the First and Renewed Petitions; (ii) accept late payment of the maintenance fees; and, (iii) reinstate the '224 patent.
- D. Grant a writ of mandamus to compel the Director to promptly accept the payment of the unavoidably delayed maintenance fee and any surcharge, on Plaintiff's showing that the delay was unavoidable and, further, to compel the Director to reinstate the '224 patent; and,
- E. For such other and further relief as the Court deems just and proper.

Respectfully submitted,

Dated: February 21, 2012.


Damon W.D. Wright, Virginia Bar No. 40319
VENABLE LLP
575 7th Street, NW
Washington, DC 20004-1601
(202) 344-4000 (phone)
(202) 344-8300 (fax)
dwdwright@venable.com

LEWIS BRISBOIS BISGAARD & SMITH LLP
THOMAS J. SPEISS, III, SB# 200949
E-Mail: tspeiss@lbbslaw.com
JON E. HOKANSON, SB# 118829
E-Mail: hokanson@lbbslaw.com
221 North Figueroa Street, Suite 1200
Los Angeles, California 90012
Telephone: 213.599.7815
Facsimile: 213.250.7900

Counsel for Plaintiff Carver International, Inc.

EXHIBIT A



US006793224B2

(12) United States Patent
Stratton**(10) Patent No.: US 6,793,224 B2**
(45) Date of Patent: Sep. 21, 2004**(54) TRUCK FOR SKATEBOARDS****(75) Inventor:** Neil Stratton, Venice, CA (US)**(73) Assignee:** Carver Skateboards, City of Industry, CA (US)**(*) Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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* cited by examiner

(21) Appl. No.: 09/801,536**(22) Filed:** Mar. 8, 2001**(65) Prior Publication Data**

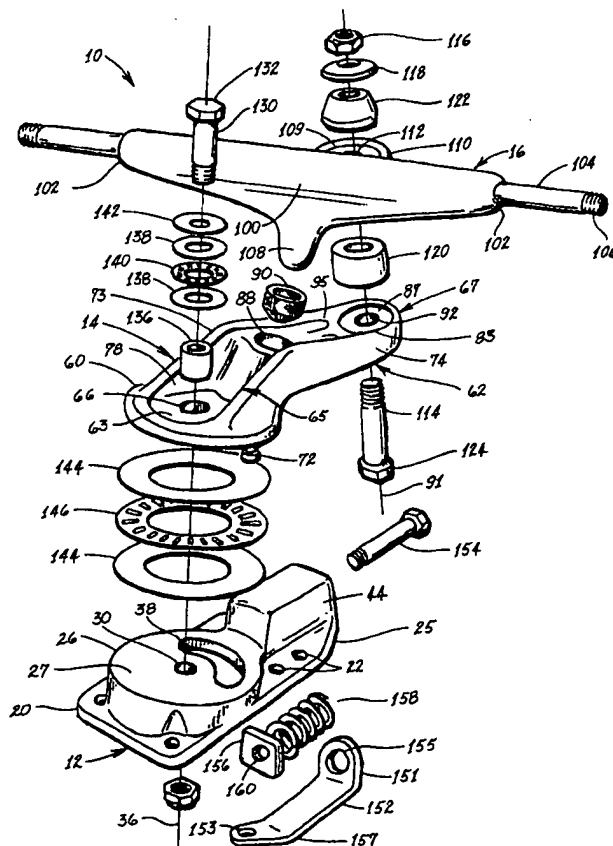
US 2002/0125670 A1 Sep. 12, 2002

(51) Int. Cl.⁷ B62M 1/00**(52) U.S. Cl.** 280/87.042; 280/87.041**(58) Field of Search** 280/11.27, 11.28,
280/87.041, 87.042; D21/765**(56) References Cited****U.S. PATENT DOCUMENTS**

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3,649,038 A	3/1972	Huckenbeck	
4,061,350 A	12/1977	Schmidt, Jr. et al.	

Primary Examiner—Brian L. Johnson**Assistant Examiner**—Brian L. Swenson**(74) Attorney, Agent, or Firm**—Tope-McKay & Assoc.**(57) ABSTRACT**

A skateboard truck comprising a base attachable to the underside of a skateboard and an arm carried by the base and rotatable relative to the base about a first axis. An axle having a pair of wheels mounted at opposite ends thereof is carried by the arm and the axle is rotatable relative to the arm about a second axis. A spring-loaded linkage is operatively connected between the base and the arm for limiting the rotational motion of the arm and biasing the arm towards a center position aligned with the skateboard's direction of movement. The first and second axes provide pivoting of the skateboard in two dimensions.

14 Claims, 8 Drawing Sheets

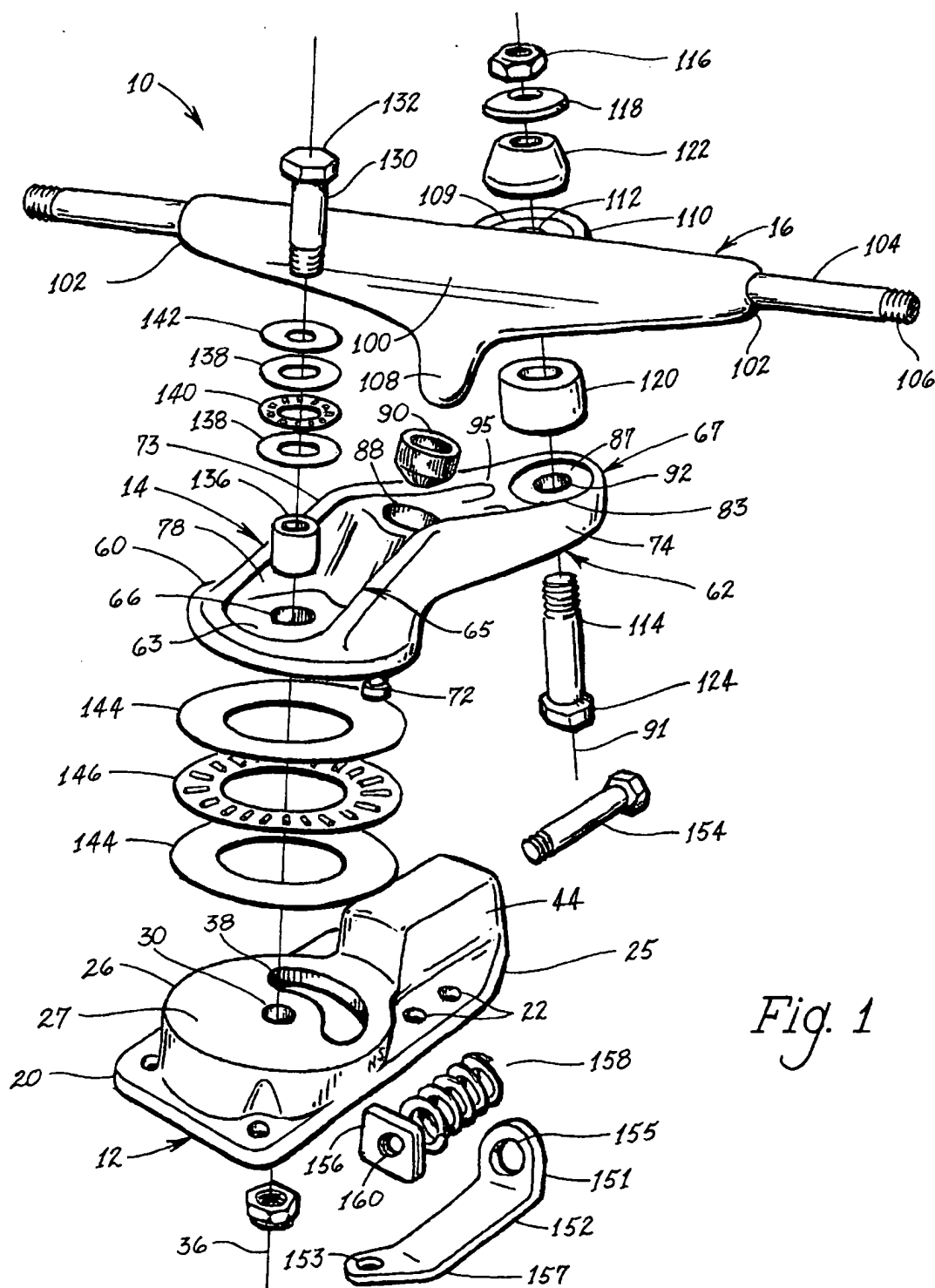


Fig. 1

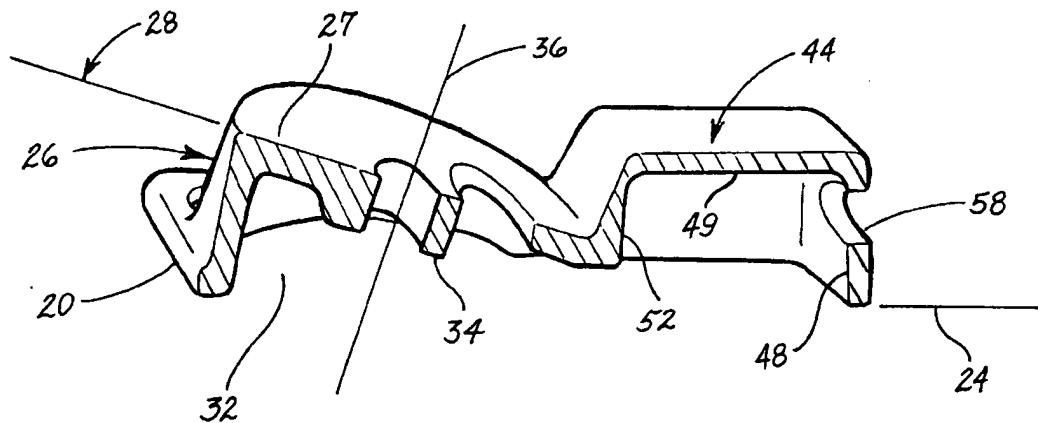


Fig. 2

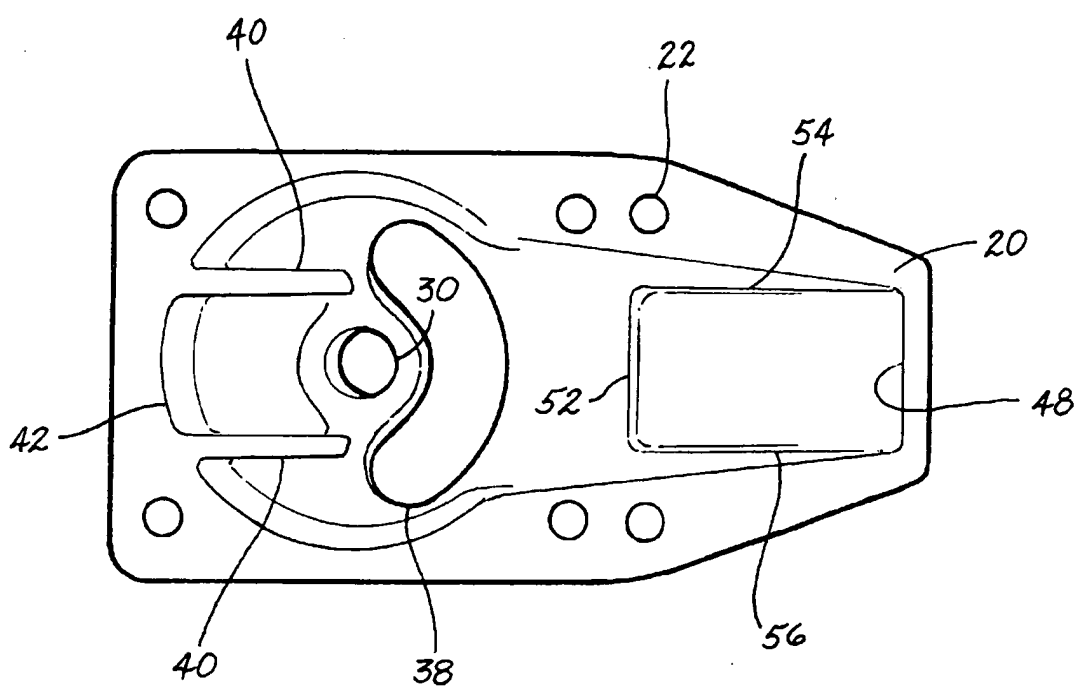
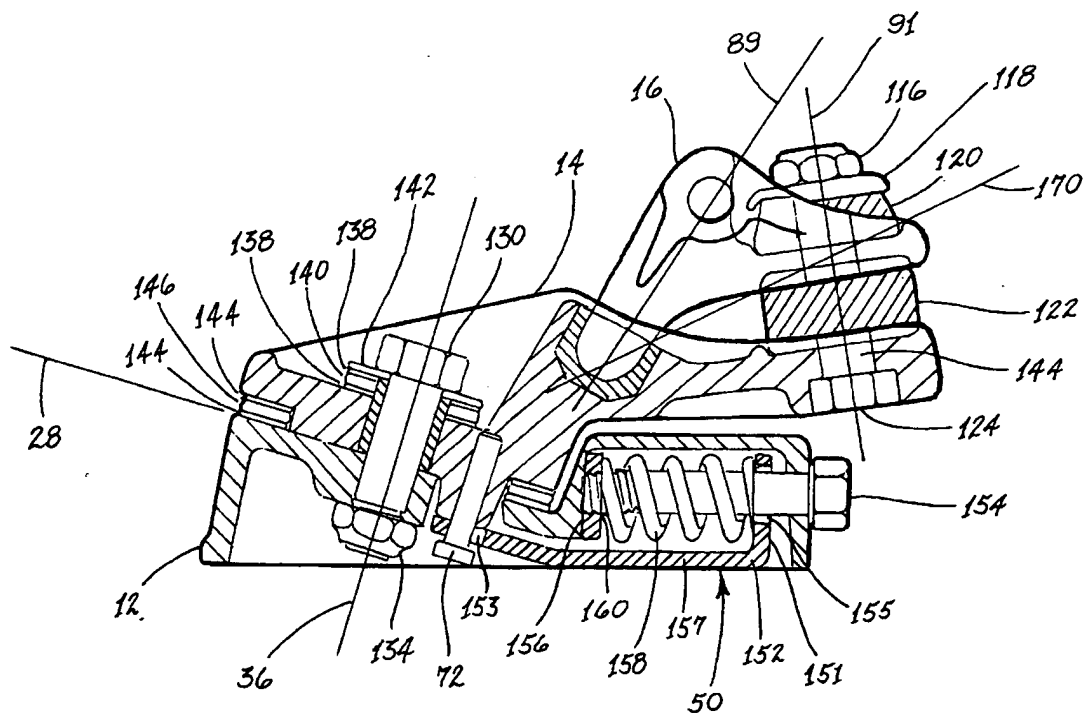


Fig. 3

*Fig. 5*

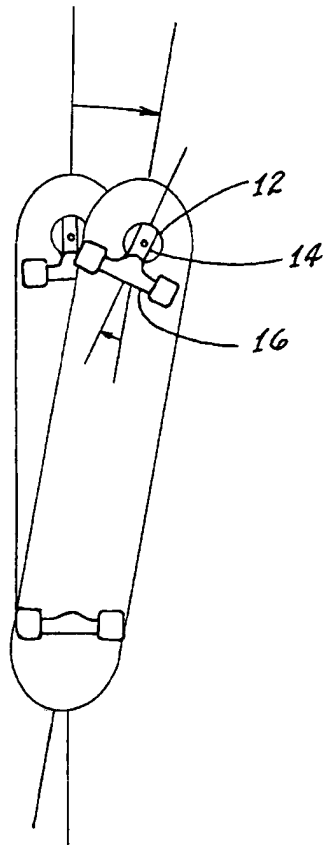


Fig. 6a

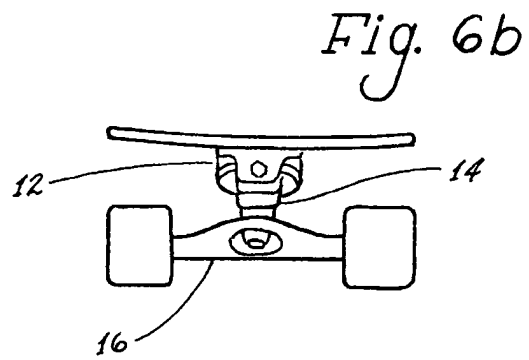


Fig. 6b

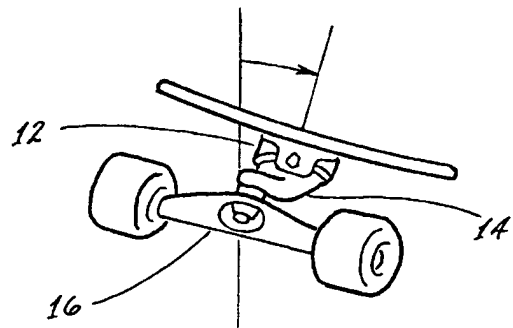


Fig. 6c

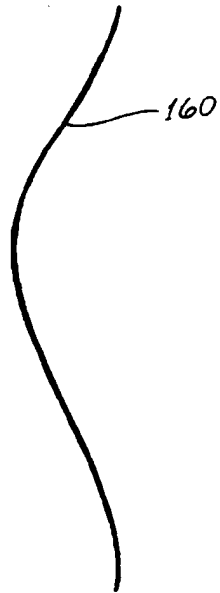


Fig. 7a

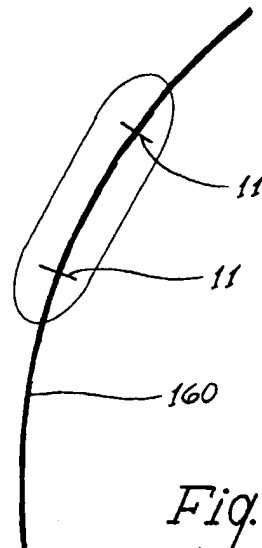


Fig. 7b

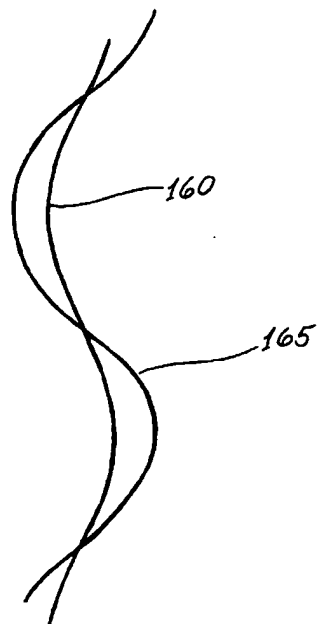


Fig. 7c

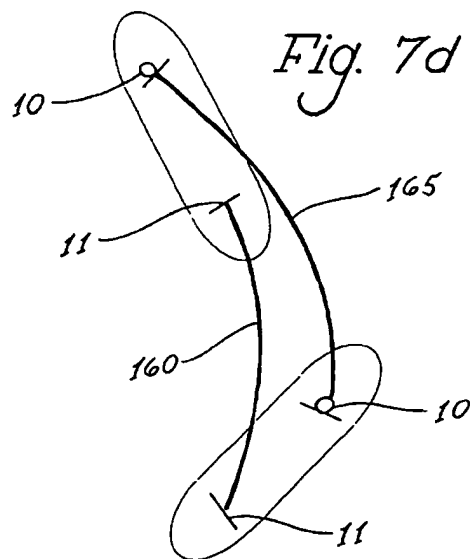


Fig. 7d

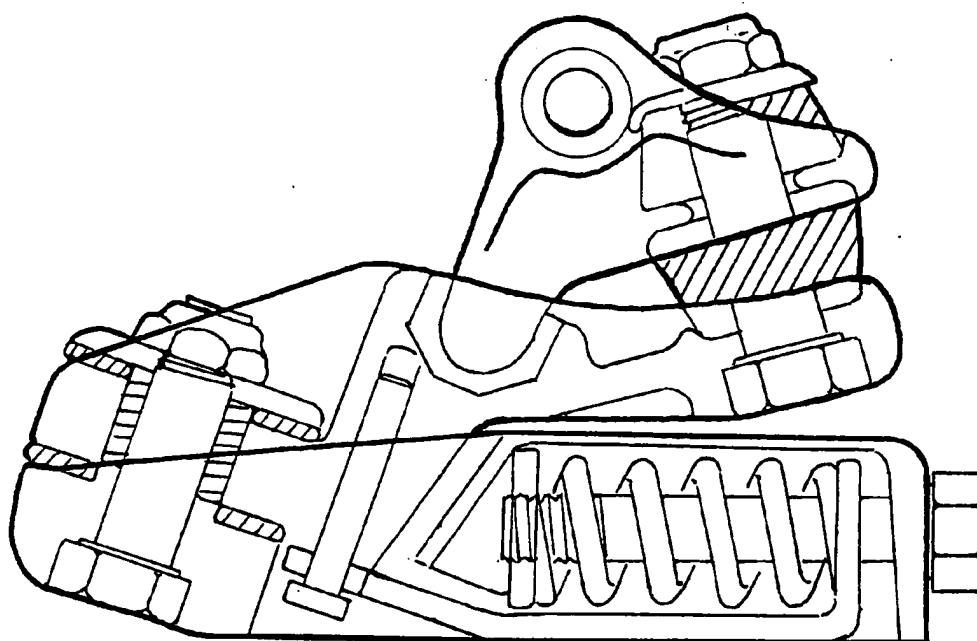


Fig. 8

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TRUCK FOR SKATEBOARDS**FIELD OF THE INVENTION**

The present invention is directed to an improved truck for a skateboard, all-terrain board or scooter, and more particularly to a truck having two independently spring-loaded pivoting members.

BACKGROUND OF THE INVENTION

Conventional skateboards utilize steering mechanisms known as trucks. Typically a truck is mounted near each end of the skateboard, and includes a pair of wheels at each end of its axles. The trucks provide some steering response, whereby when a skateboarder shifts weight laterally across the board the axle twists, causing the board to turn. The trucks also serve, by means of a suspension system, commonly urethane bushings, to resiliently resist the skater's lateral tilt of the truck, thus stabilizing the board, and returning it to its normal position when the turn is completed. This lateral stability is crucial for both distance riding and aerial tricks where a firm platform is desired. Current trucks must sacrifice their ability to turn for lateral stability, thus becoming stiff and unresponsive when tightened sufficiently. Conversely, loosening the trucks so the board can turn easily makes it dangerously wobbly, especially at higher speeds. Furthermore, even in optimal conditions, the rate of turn provided by conventional trucks is very little.

Previous attempts have been made to design a truck with increased maneuverability. One method utilizes a truck having a trailing castor that provides the skateboard with a second axis of rotation is described in U.S. Pat. No. 5,522,620 to Pracas.

In this prior art device, the truck comprises a conventional truck mounted to a pivotal member. The pivotal member is coupled to the nose of the deck about a hearing member which rotates along a plane parallel to the direction of motion. A pair of stop members are shown that limit the pivotal movement between two extreme positions. Further, a locking member maybe engaged to stop any rotation, thus returning the truck to a conventional configuration.

Although the '620 device provides a second pivot, the lateral plane of pivotal rotation merely provides the front of the skateboard with a side to side movement. Because the axis of rotation is parallel to the direction of motion, lateral weight shift does not bear any leverage upon the pivotal member when the arm is near the center of its range. Further when the pivotal member rotates towards its extreme positions, the skaters' lateral weight imposes exponentially more leverage upon the member causing overturning and loss of control. Additionally, the '620 device does not regulate the torsional movement of the trailing castor. A strong bias to center is desired when performing aerial tricks so as to provide a predictable and stable landing. Further, regulating the rotational movement by a spring system is also important to stabilize the truck at high speeds.

Accordingly, a need exists for an improved truck that provides the user with more control over the torsional movement of the pivoting member and being adjustable for users of varying needs.

SUMMARY OF THE INVENTION

The present invention provides an improved skateboard truck which pivots about two axes and provides a combination of adjustable lateral stability and enhanced turning

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abilities. Generally speaking, a truck according to this invention comprises an axle having a pair of wheels mounted at opposite ends thereof. An axle extends through the center of the axle and is secured thereto on the side of the axle distal from the point of securing the truck to a skateboard. The truck further includes a resilient bushing circumferentially mounted on the axle on the side of the axle proximal to the point of securing the truck to the skateboard for providing a first pivot axis about the axle, and a swivel connected to the axle and adapted to be pivotally attached to the underside of the skateboard about a second pivot axis. The swivel and the bushing are ganged together to provide pivoting of a skateboard in two dimensions.

In a presently preferred embodiment of the invention the skateboard truck includes a base attachable to the underside of a skateboard and an arm carried by the base and rotatable relative to the base about a first axis. An axle having a pair of wheels mounted at opposite ends thereof is carried by the arm and the axle is rotatable relative to the arm about a second axis. A spring-loaded linkage is operatively connected between the base and the arm for limiting the rotational motion of the arm and biasing the arm towards a rest position aligned with the skateboard's direction of movement.

The improved skateboard truck is preferably attached to the front of the skateboard, while a conventional truck is fastened to the rear. Because of the improved capabilities of the present invention the skateboarder is able to propel the skateboard by shifting the nose of the skateboard from side-to-side, lumber, the present invention enables the rider to smoothly navigate the front of the skateboard to-and-fro and complete sharp turns at a rider controlled rate. As such, the skateboard closely simulates the dynamics of a surfboard on the water.

DESCRIPTION OF THE DRAWINGS

These and other features and advantages of the present invention will be better understood by reference to the following detailed description when considered in conjunction with the accompanying drawings wherein:

FIG. 1 is an exploded perspective view of the skateboard truck of the present invention;

FIG. 2 is a cross-sectional side view of the base plate of the truck in FIG. 1;

FIG. 3 is a bottom view of the base plate in FIG. 2;

FIG. 4 is a cross-sectional side view of the pivoting member of the truck in FIG. 1;

FIG. 5 is a cross-sectional side view of the assembled truck in FIG. 1;

FIG. 6A is a top view of the truck in FIG. 1 mounted onto a skateboard, the view showing the arcing, lateral movement of the nose of the skateboard as it moves to-and fro;

FIGS. 6B and 6C are perspective views of the truck in FIG. 1 mounted onto a skateboard, the views showing the arcing, lateral movement of the nose of the skateboard as it moves to-and-fro;

FIGS. 7A and 7B are simplified schematic views of the path of motion of a conventional skateboard;

FIGS. 7C and 7D are simplified schematic views of the path of motion of the skateboard in FIG. 6; and

FIG. 8 is a side view of an alternative embodiment of the truck in FIG. 1.

DETAILED DESCRIPTION OF THE INVENTION

In a preferred embodiment of the invention, there is provided a skateboard truck 10 having, two independently

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spring-loaded pivoting; members. As shown in FIG. 1, the truck 10 comprises a baseplate 12, a pivoting member 14, and a hanger 16.

Referring to FIG. 1, the baseplate 12 comprises a casting forming a base 20, a bearing platform 26, and a housing 44. The baseplate can be of any suitable construction and made of any suitable material in a preferred embodiment, the baseplate 12 is cast in A356 prime aircraft grade aluminum heat treated to Rockwell T-6. In alternative embodiments the baseplate 12 may be cast or forged of any formable high strength metal or plastic. The base 20 is a substantially rectangular plate having a finite thickness, for example about $\frac{3}{16}$ inches, a rear tapered portion 25, and plurality of apertures 22. The apertures 22 are suitably configured for mounting the baseplate 12 onto the underside of the skateboard platform.

Referring to FIGS. 2 and 3, the bearing platform 26 projects upward, and substantially oblique, from the one end of the base 20. The platform 26 comprises a circular body having at recess 32 formed on its underside by a circular periphery 42 having an inner surface 34. The recess 32 includes a pair of parallel and spaced apart ribs 40 which extend into the recess 32. As shown in FIG. 2, the bearing platform 26 is defined by an upper surface 27, which runs parallel to a bearing plane 28. The bearing plane 28 is defined at an angle oblique to a lateral plane 24 of base 20, preferably at about 10° to about 25° , more preferably at about 17° . The upper surface 27 comprises a central bore 30, defining a first axis 36, substantially perpendicular to the bearing plane 28, and a semicircular notch 38.

The housing 44 projects upward, and substantially perpendicular from the base 20, and is integral with the bearing platform 26. The housing 44 includes a plurality of sidewalls 48, 52, 54, and 56, and atop wall 49, forming a cavity 46 in the housing; 44 for retaining a spring system, as discussed in detail below. Sidewall 48 comprises a circular opening 58 for receiving a bolt.

Referring to FIG. 1, the pivoting member 14 comprises a casting forming a cylindrical pedestal 60 having a unit thickness, and an elongated arm 62. The pivoting member 14 can be of any suitable construction and made of any suitable material. To a preferred embodiment, the pivoting member 14 is cast in A356 prime aircraft grade aluminum and heat treated to Rockwell T-6. In alternative embodiments the pivoting member 14 may be cast or forged of any formable high strength metal or plastic. Referring now to FIG. 4, the pedestal 60 includes a circular notch 64 formed about its base portion, and an orifice, 66. A boss portion 70 supporting a link pin 72 extends downwardly from a base portion of the pedestal 60. Referring back to FIG. 1, the arm 62 extends upwardly from the base 60 and comprises a pair of gussets 73 and a cantilevered body 74 having at proximal end 65 and distal end 67. The gussets 73 are triangular in shape and disposed in parallel along the proximal end 65 of the body 74. The gussets 73 are integrally formed with the pedestal 60, forming a void 78 which defines a top surface 63 of the pedestal 60.

The body 74 is an arching structure extending from the gussets 73 at an acute angle 80 (see FIG. 4) relative a lateral pedestal base plane 68, preferably at about a 17° angle. A lip 83 is formed along the top surface of the body 74, forming a bearing surface 87. A channel is formed adjacent to bearing surface 87, into which a plurality of stiffening ribs 95 extend. Referring to FIG. 4, a groove 84 formed in the underside of the body 74 comprises a second series of stiffening ribs 86, which extend into the groove 84. The body 74 additionally

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includes a counterbore 92 defining a second axis 91 inclined at all angle preferably about 30° relative to the pedestal base plane 68. Referring now to FIG. 1, the body 74 further includes a blind hole 88 lined with a urethane cup 90. Referring back to FIG. 4, the blind hole 88 defines a third axis 89 inclined at an angle preferably about 40° relative to the second axis 91.

With reference to FIG. 1, the hanger 16 comprises a casting forming a body portion 100 and end portions 102 extending outwardly from the body portion 100 in opposite directions. The hanger 16 can be of any suitable construction and made of any suitable material. In a preferred embodiment, the hanger 16 is cast in A356 prime aircraft grade aluminum and heat treated to Rockwell T-6. In alternative embodiments, the hanger 16 maybe cast or forged of any formable high strength metal or plastic. The end portions 102 include a pair of concave channels on their undersides. Axle rod 104 extending from end portions 102 carry the skateboard wheels mounted on threaded ends 106. The hanger 16 further includes a pivot pin 108 extending downwardly from a central region of the body portion 100. A platform 110 having a cut-out 109 and an eyelet 112, extends laterally from a central region of the body portion 100, opposite the pivot pin 108. As would be recognized by one skilled in the art, the construction of the hanger body can be modified as desired.

Referring to FIGS. 1 and 5, the hanger 16 is preferably mounted onto the arm 62 by a kingpin or support member 114 which passes through the eyelet 112 of the platform 110. When assembled, the king pin 114 extends through a first bushing 120 disposed between the platform 110 and the body 74. The king pin 114 further extends through a second bushing 122 and a flat washer 118 seated within the cut-out 109, disposed between a fastening nut 116 and a top surface of the platform 110. The king pin 114, nut 116, and washer 118 can be of any suitable type or construction and made of any suitable material. In a preferred embodiment, the king pin 114, washer 118 and nut 116 are fabricated from steel having conventional dimensions, preferably about $\frac{3}{8}$ inches in diameter. Referring to FIGS. 1 and 4, in a presently preferred embodiment the first and second bushings 120 and 122 are urethane. The bolt head 124 of the king pin 114 is displaced on the underside 84 of the body 74, between the plurality of ribs 86, such that the kingpin 114 does not rotate as the nut 116 engages a threaded portion of kingpin 114. The pivot pin 108 engages the pivot cup 90 within the aperture 88 to align the hanger 16 relative to the arm 62.

The compliant properties of the bushings 120 and 122 allows the hanger 16 to pivot about a longitudinal axis 170 (see FIG. 5) in conventional fashion, when a sufficient load is applied to an end portion 102 of the hanger 16. As such, the hanger 16 functions as a first resilient, or spring,—loaded pivoting member. As will be recognized by one skilled in the art, the mounting of the hanger 16 to the arm 62 can be modified as desired. For example, a system using a pair of compression springs, as described in U.S. Pat. No. 5,263, 725 to Gesmer et al., maybe used instead of the urethane bushing system.

The pivoting member 14 is preferably mounted onto the baseplate 12 is by a pivot bolt 130 which passes through the pedestal orifice 66 of the pivoting member 14. When assembled, the pivot bolt 130 extends through a nut 134, a bronze bushing 136, a pair of bearing plates 138, a first bearing 140, and a flat washer 142. The pivot bolt 130, nut 134, and washer 142 can be of any suitable type or construction and made of any suitable material. In a preferred embodiment, the pivot bolt 130, nut 134, and washer 142 are

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fabricated from steel having conventional dimensions, preferably about $\frac{3}{8}$ inches in diameter.

The pivoting member 14 is assembled onto the baseplate 12 such that the boss 70 engages the semicircular notch 38. The washer 142 and the first bearing 140, which is sandwiched between a pair of bearing plates 138, are displaced between the pivot bolt head 132 and the pedestal top surface 63. The first bearing 140 can be of any suitable type or construction and made of any suitable material. In a preferred embodiment, the first bearing 140 is a steel needle thrust bearing having an outer diameter of about $\frac{7}{8}$ inches and an inner diameter of about $\frac{1}{2}$ inches. The bronze bushing 136 comprises an inner aperture suitable for receiving the pivot bolt 130 and is disposed within the aperture 66 to provide minimum friction between the pivoting member 14 and the pivot bolt 130. A bearing assembly comprising a second bearing 146 sandwiched between a pair of bearing washers 144, is disposed with the circular notch 64 in between the pedestal 60 and the an upper surface 27. The nut 134 is disposed within the housing recess 32, between the pair of ribs 40, such that the nut 134 is confined and can not rotate as the nut 134 engages a threaded end portion of the pivot bolt 130.

The second bearing 146 can be of any suitable type or construction and made of any suitable material. In a preferred embodiment, the second bearing 146 is a steel needle thrust bearing having an outer diameter of about $2\frac{3}{16}$ inches and an inner diameter of about $1\frac{1}{2}$ inches. The bearings 140 and 146 function to provide smooth rotation of the pivoting member 14. In alternative embodiments, other means may be used to provide minimal friction between the arm 62 and the base 12, such as ball bearings, oil impregnated bronze plain bearings, flexures (flexible structures), or the like.

A spring system 50 retained within the housing 44 includes a link 152, a link bolt 154, a spring 158, and a nut plate 156. The link 152 comprises a resilient metal formed in an L-shape, having a first portion 151 extending substantially perpendicular from a second portion 157 that is substantially canted at its distal end. The link 152 is preferably formed from a sheer of stainless steel, but may be of any suitable material having similar material properties. The first portion 151 comprises a bolt opening 155 centrally displaced along the first portion 151. The second portion 157 comprises a link pin opening 153 along its canted distal end.

The spring system 50 is coupled to the housing 44 bypassing the link bolt 154 through the circular and bolt openings 58 and 155. In a preferred embodiment, the link bolt 154 is Grade 8 steel having a diameter of about $\frac{1}{2}$ inches. A threaded portion of the link bolt 154 engages a threaded hole 160 centrally located within the nut plate 156. The spring 158 is preferably a steel heavy-duty compression spring disposed between the nut plate 156 and the first portion 151 of the link 152.

The spring system 50 is coupled to the pivoting member 14 by engaging the link pin 72 with the link opening 153 on the canted end of the link 152. The spring system 50 functions to control the rotational movement of the pivoting member 14. The link 152 is spring-loaded to resist and control rotational movement of the pivoting member 14. By turning the link bolt 154 clockwise, the threaded portion of the bolt 154 engages the nut plate 156 and compresses the spring 158. The spring 158 then applies a spring load to the first portion 151 of the link 152, and further, stiffens the resilient movement or tension in the link 152. Thus, if the threaded portion the link bolt 154 is fully engaged with the nut plate 156, the tension in the link 152 will stiffen and the

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spring system 50 will constrain the pivoting member 14 from rotational translation, thereby increasing the turning resistance likewise, as the threaded portion the link bolt 154 is disengaged from the nut plate 156, the pivoting member 14 is increasingly free to rotate about the perimeter defined by the semicircular slot 38, as the spring system 50 would exert minimal spring load on the link pin 72, thereby loosening the turning resistance.

The frictionless properties of the bearings 140 and 146 allow the pivoting member 14 to pivot about the first axis 36 in a plane oblique to the direction of movement when a sufficient side load is applied on the arm 62. The spring system 50 applies a spring-load on the, pivoting member 14, limiting the rotational translation of the pivoting member 14.

In accordance with the preferred embodiments above, the hanger 16 functions as a first resilient or spring-loaded pivoting member. Similarly, the pivoting member 14 functions as a second resilient or spring-loaded pivoting member. As would be recognized by one skilled in the art, the mounting of the pivoting member 14 to the baseplate 12 and coupling the pivoting member 14 to the spring system 50 can be modified as desired. For example, a urethane bushing, leaf spring or extension spring system with non-indexed centering properties may be used in place of the compression spring system.

In operation, the present invention is ideal for turning; a skateboard at a parabolic rate. To perform this function, the improved truck 10 is provided at the front of the skateboard while a conventional truck is provided at the rear. An example of such a conventional truck is provided in U.S. Pat. No. 3,945,655, the disclosure of which is incorporated herein by reference. The skateboard is navigated by a rider standing on its deck, by shifting his/her weight from side to side such that it moves in a forward direction. The rider can propel the skateboard forward without removing his/her feel from the deck. FIGS. 7C and 7D show the serpentine motion of the path of the front truck, which is depicted as 165, as it weaves over the path of a conventional rear truck, depicted as 161. It is this difference in frequency between the two sinusoidal paths that is the basis for forward propulsion of the skateboard. In accordance with the present invention, the rear truck becomes a relative point from which the front truck may pivot, and such dynamics acts to poll the board forward, as will be described in further detail later.

The improved maneuvering capabilities of a skateboard incorporating the truck 10 is accomplished by the dual pivoting characteristics of the truck 10. The resilient bushings 122 and 120 facilitate a first pivoting axis 170 inclined at approximately 30° to 60° relative to the plane of movement. The pivoting member 14 provides a second pivoting axis substantially oblique to the plane of movement, and wherein the. Second pivoting axis is inclined relative the first pivot axis at an angle preferably at about 130° to about 160° , more preferably at 140° . The dual pivoting truck 10 enables the nose of the skateboard to move in a side-to-side motion.

Referring to FIG. 7A, skateboards using a pair of "conventional" trucks 11 turn together at a constant rate along primary sinusoidal path 161. Both front and rear trucks pivot in one dimension symmetrically and in fixed relation, as shown in FIG. 7B. A skateboard according to the preferred embodiments of the present invention, utilizes an improved front truck 10 in combination with a "conventional" rear truck 11. According to this embodiment, as shown in FIGS. 7C and 7D, the rear "conventional" truck 11 turns on the primary path 161, while simultaneously, the front truck 10

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turns on a secondary sinusoidal path 165. As such, the skateboard may trace a variable parabolic path. The front and rear trucks of the skateboard pivot asymmetrically, as the rear truck pivots in one dimension and the front truck pivots in two dimensions, in contrast to the fixed relation provided by a skateboard utilizing a pair of conventional trucks. The asymmetric properties of the improved skateboard enables the front and rear trucks to turn independently, allowing a skateboard rider to create a variable arc of turn with all wheels in contact with the ground, while propelling the skateboard forward.

The angled configuration of the bearing plane 29 (see FIG. 5) defines the plane of movement of the nose of the skateboard to-and-fro as an arc illustrated in FIGS. 6A-C. The arcing lateral movement of the nose provides secondary torquing on the pivoting member 14, in addition to the torque created by weight shift, allowing the rider to turn the skateboard with minimal effort. Additionally, the arcing lateral movement of the nose enables the rider to "carve" the skateboard in a forward serpentine motion as the users twists or shifts his/her weight back and forth, increasing the angle of the plane 28 increases the amount of secondary torque that the rider can apply to the pivoting member 14 by shifting his/her weight from one side to the other. As such, the truck of present invention is improved over trucks of the prior art, as it balances the combination of torque upon the arm 62 created by the lateral weight shifting of the user during the side-to-side movement of the skateboard, so that the two movements call work smoothly together. Without the angled bearing plane, lateral weight shift from the center position would bear too little, torque upon the rotation of the arm 62. Conversely, lateral weight shift created upon the arm 62 in a turning position bears too much torque. This imbalance causes jerkiness and loss of turning; control.

In use, the truck 10 is attached to the skateboard platform such that the arm 62 of the pivoting member 14 extends rearward. This configuration causes the truck 10 to restore the truck wheels to their center position as the skateboard propels forward. Analogous to a shopping cart, where the wheels are behind the pivot point, the forward movement of the skateboard tends to align the pivoting member 14 with the direction of movement. Thus, the pivoting member 14 acts to automatically center, or self correct itself, providing stability to the truck 10 as the skateboard travels at higher speeds.

Referring to FIG. 5, the spring system 50 functions to provide the truck 10 with additional self-centering capabilities. The spring-loaded link 152 constantly acts upon the link pin 72 to return the truck 10 to its center position. As such, the spring system 50 creates a "non-indexing" center. In other words the user can push the front of the board from one side to another smoothly past the truck's center position, mimicking the non-biased dynamics of a surfboard. Additionally, the spring system 50 creates a resistance against the arm 62 that correlates to the resistance against the hanger provided by the urethane bushings 120 and 122.

Furthermore, a rider performing an aerial trick, such as all Ollie, can return the board back to the ground confidently, as the spring system 50 returns the truck 10 firmly back to a conventional orientation upon landing of the board. Thus, the present invention further overcomes the inherent problems of pivoting tricks of the prior art.

A user may adjust the amount of "freedom" of pivotal resistance of the truck 11 via the link bolt 154. By tightening or loosening the link bolt 154, the user can vary the tension of the spring 158 on the link 152, which in turn, limits the

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rotational movement of the pivoting member 14. Thus, a beginner can fully engage the link bolt 154, such that the skateboard becomes very stable. A more advanced rider, can loosen the link bolt 154 to provide more pivotal freedom and increased maneuvering. For example, the present invention enables an advanced rider to complete a sharp U-turn on a sidewalk of conventional dimensions.

In alternative embodiments, the base plate of the truck can be altered to any suitable size or shape. An example of a modified embodiment is shown in FIG. 8. In other embodiments, the pivoting member 14 and hanger 16 may be integrated into a single piece. In this embodiment, the integrated pivoting member 14 may include an axle resiliently mounted about all extended portion of the pivoting member 14 such that the axle may pivot relative to the pivoting member 14.

The preceding description has been presented with reference to presently preferred embodiments of the invention. Workers skilled in the art and technology to which this invention pertains will appreciate that alterations and changes in the described structure may be practiced without meaningfully departing from the principal, spirit and scope of this invention.

Accordingly, the foregoing description should not be read as pertaining only to the precise structures described and illustrated in the accompanying drawings, but rather should be read consistent with and as support to the following claims which are to have their fullest and fair scope.

What is claimed is:

1. A skateboard truck comprising:

an arm adapted to be pivotally attached to an inclined surface, inclined relative to the underside of a skateboard deck having a first skateboard truck pivot axis; an axle, the axle being coupled with the arm by a support member secured with the midpoint of the axle; and a resilient bushing circumferentially disposed about the support member for providing a second skateboard truck pivot axis relative to the axle the arm and bushing being ganged together to provide independently adjustable pivoting of the skateboard truck about two axes of freedom.

2. The skateboard truck of claim 1, wherein the arm is attached with the underside of the skateboard about a base having an inclined bearing surface of the first pivot axis relative to the skateboard deck.

3. The skateboard truck of claim 2, wherein the bearing surface is inclined at an angle ranging from about 10° to about 25° relative to the skateboard deck.

4. The skateboard truck of claim 3, wherein the second pivot axis is inclined at an angle approximately 30° to approximately 60° relative to the skateboard deck.

5. The skateboard truck of claim 4, wherein the first pivot axis is inclined relative to the second pivot axis at an angle ranging from about 130° to about 160°.

6. The skateboard truck of claim 2, further comprising a springloaded linkage having adjustable tension operatively connected between the base and the arm for limiting rotational movement of the arm relative to the base and biasing the arm towards a position aligned with the longitudinal axis of the skateboard.

7. The skateboard truck of claim 6, wherein the tension in the linkage is adjusted by engaging a threaded portion of a bolt that extends through a portion of the linkage and a compression spring disposed between a portion of the linkage and to plate, with a threaded aperture on the plate for compressing the spring between the linkage and the plate to spring-load the linkage as the bolt further engages the aperture.

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8. A skateboard truck comprising:

a base attachable to the underside of a skateboard deck;
 an arm carried by the base wherein the arm is pivotally
 attached in an inclined manner relative to the base
 about a first axis;

an axle, the axle being carried by the arm and pivotally
 attached in an inclined manner relative to the arm about
 a second axis; and

a coupling operatively connected between the base and
 the arm,

whereby the first and second axes provide independently
 adjustable pivoting of the skateboard truck in two
 dimensions.

9. The skateboard truck of claim 8, wherein the base
 comprises an inclined bearing surface of the first pivot axis
 relative to the skateboard deck.

10. The skateboard truck of claim 9, wherein the bearing
 surface is inclined at an angle ranging from about 10° to
 about 25° relative to the skateboard deck.

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11. The skateboard truck of claim 10, wherein the first
 axis is inclined at an angle approximately 30° to approxi-
 mately 60° relative to the skateboard's plane.

12. The skateboard truck of claim 11, wherein the second
 axis is inclined relative the first pivot axis at an angle
 ranging, from about 130° to about 160°.

13. The skateboard truck of claim 8, wherein the coupling
 is a spring-loaded linkage having adjustable tension for
 limiting rotational movement of the arm relative the base,
 and biasing the arm towards a position aligned with the
 longitudinal axis of the skateboard.

14. The skateboard truck of claim 13, wherein the tension
 in the linkage is adjusted by engaging a threaded portion of
 a bolt that extends through a portion of the linkage and a
 compression spring disposed between a portion of the linkage
 and a plate, with a threaded aperture on the plate for
 compressing the spring between the linkage and the plate to
 spring-load the linkage as the bolt further engages the
 aperture.

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